

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated December 30, 2004 has been received and its contents carefully reviewed.

By this Amendment, Applicant amends the title and paragraph [00045] of the specification, and cancels claim 8. Accordingly, claims 1-7 and 9-21 are currently pending. Reexamination and reconsideration of the pending claims is respectfully requested.

In the Office Action on page 2, the Examiner has made a requirement for a new title because the original title is not descriptive. Although Applicant believes that the title of the invention is clearly indicative of the invention, for the purpose of expediting the prosecution of this application, the title has been changed. Therefore, Applicant requests the withdrawal of this objection.

On page 2, the Examiner further objected to paragraph [00045] of the present application and claim 8. Applicant respectfully submits that these objections are now believed to be moot in view of the current amendments.

In addition, the Examiner rejected claims 1-7, 9-12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Burroughes et al. (U.S. Patent No. 6,707,248) in view of Pichler (U.S. Patent No. 6,255,774); rejected claims 13, 14, 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Burroughes et al. in view of Pichler and Applicant's Related Art ("ARA"); and rejected claims 15 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Burroughes et al. in view of Pichler and So et al. (U.S. Patent No. 5,731,661). Applicant respectfully traverses these rejections.

The rejection of claims 1-7, 9-12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Burroughes et al. in view of Pichler is respectfully traversed and reconsideration is requested.

Claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, "...a thin organic layer having a hole injection/transport layer, an organic light-emitting layer and an electron injection/transport layer; and a cathode, wherein the anode substrate, the thin organic layer and the cathode are sequentially stacked and wherein

the cathode comprises first to fourth electrodes stacked on the thin organic layer.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicant respectfully submits that claim 1 and claims 2-7 and 9-12, which depend from claim 1, are allowable over the cited references.

In the Office Action on pages 3-4, the Examiner admits, “Burroughes does not exemplify the cathode comprising fourth electrode.” Then, when combining the teachings of Burroughes et al. and Pichler, the Examiner states “it would have been obvious.. to substitute the first electrode (layer of Ca) of Burroughes by two electrodes as taught by Pichler for providing efficient injection of negative charge carriers and low operating voltage and preventing excessive doping and minimizing the risk of shorting of the device structure and quenching of the electroluminescence of at least one layer of organic material.”

As best understood, the those advantages of Pichler asserted by the Examiner would, however, be obtainable when the cathode electrode comprising a thin layer of an alkali metal and the thin layer covered with a conductive layer of aluminum or aluminum alloy is in contact with the electroluminescent layer which may include a hole injection layer, a hole transporting layer, an electron injection layer, and/or an electron transporting layer. See Pichler, for example, Fig. 1. By replacing the first electrode of Burroughes et al with the cathode electrode of Pichler, the cathode electrode of Pichler would contact the second electrode of Burroughes et al, not the electroluminescent layer. Accordingly, Applicant respectfully submits that there is no motivation for one of ordinary skill to combine the cited references and arrive at the claimed invention with any reasonable expectation of success.

Claim 17 is allowable over the cited references in that claim 17 recites a combination of elements including, for example, “...providing a thin organic layer on the anode substrate, the thin organic layer having a hole injection/transport layer, an organic light-emitting layer and an electron injection/transport layer; and forming a cathode on the thin organic layer, wherein the cathode comprises first to fourth electrodes stacked on the thin organic layer.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicant respectfully submits that claim 17 is allowable over the cited references.

The rejection of claims 13, 14, 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Burroughes et al. in view of Pichler and ARA is respectfully traversed and reconsideration is requested. Since ARA fails to cure the deficiencies of Burroughes et al. and Pichler as discussed with respect to claims 1 and 17, claims 13, 14, 18 and 19 are allowable over the cited references.

The rejection of claims 15 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Burroughes et al. in view of Pichler and So et al. is respectfully traversed and reconsideration is requested. Since So et al. fails to cure the deficiencies of Burroughes et al. and Pichler as discussed with respect to claims 1 and 17, claims 15 and 20 are allowable over the cited references.

Applicant believes the application is in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: March 30, 2005

Respectfully submitted,

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